DETAILED ACTION

Response to Amendment

Applicant's amendment filed on 7/10/2009 has been entered. Claims 1, 23-24 and 38-52 are still pending in this application.

Response to Arguments

1. Applicant's arguments filed 7/10/2009 have been fully considered but they are not persuasive.

Regarding the applicant's arguments that the prior art of record does not teach or suggest "a means for receiving identification information of said wireless station that is an object of positioning, or identification information of said plurality of said wireless stations, for retrieving necessary, measurement number-of-times conclusion information corresponding to this identification information from said database, and for deciding the measurement number of times based upon this necessary measurement number-of-times conclusion information" (see Remarks page 9-10), the examiner respectfully disagrees. Niu discloses a method and system of determining a location of a mobile device where the reference units of the mobile device are mobile the measurements are conducted periodically([0041][0042]). In other words, if the reference units are identified to be mobile rather than fixed there will be more measurements to establish the location of mobile device. In addition, Niu discloses that number of measurements is determined by the number of occurrences of reference units in the neighbor list ([0043][0044]). In other words, if there are more reference units on the neighbor list of the mobile device there are more measurements to establish the location of the mobile device. Niu

discloses taking different number of measurements associated with the different characteristics of the reference stations, for example, the mobile reference stations and the number of reference stations. Niu does not explicitly disclose the number-of-times the stations need to measure. Green is brought to show such feature is known in the art. Green teaches making a coarse measurement and then making an accurate measurement based on the characteristics of the mobile station, such as multipath distortion (see e.g. col. 5 lines 9-48, col. 6 lines 61-67 and col. 9 lines 5-19). Therefore the combination of Niu and Green discloses "a means for receiving identification information of said wireless station that is an object of positioning, or identification information of said plurality of said wireless stations, for retrieving necessary, measurement number-of-times conclusion information corresponding to this identification information from said database, and for deciding the measurement number of times based upon this necessary measurement number-of-times conclusion information".

Concerning the applicant's arguments regarding combination of references, both of the references are from the same field, i.e. communication systems and concern analogous topics. Therefore, the examiner contends that the references would be combinable to one skilled in the art.

Therefore, the argued limitations read upon the cited references or are written broad such that they read upon the cited references, as follow.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 23, 38, 42, 44, 45-46, 47, 48, 49, 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niu et al. (US 2003/0134456) in view of Green, Jr. (5926133).

Regarding claims 1 and 23, Niu discloses a positioning system for determination a position of wireless station that is an object of positioning using measuring a communication situation between a said wireless station that is an object of positioning and each of a plurality of wireless stations other than said wireless station that is an object of positioning, characterized in including:

a database having identification information of said wireless station that is an object of positioning, or identification information of said plurality of said wireless stations and necessary measurement conclusion information for drawing a conclusion on a measurement number of times stored correspondingly to each other, said necessary measurement conclusion information derived from a characteristic of said wireless station that is an object of positioning, or a characteristic of said plurality of said wireless stations, or a characteristic of a combination of said wireless station that is an object of positioning and said plurality of said wireless stations **(see e.g.[0009][0011][0012] a neighbor list of reference units some of which are mobile and some of which are stationary; [0029][0030][0031] location is determined by number of occurrences**

of the reference units in the corresponding neighbor list; [0041][0043] if reference units are mobile their positions need to be measured periodically, therefore number of the measurements depends on the characteristic of the reference stations); and a means for receiving identification information of said wireless station that is an object of positioning, or identification information of said plurality of said wireless stations, for retrieving necessary measurement conclusion information corresponding to this identification information from said database, and for deciding the measurement number of times based upon this necessary measurement number-of-times conclusion information **(see e.g. [0046] [0047] means for receiving, retrieving and processing information)**.

Niu discloses taking different number of measurements associated with the different characteristics of the reference stations, for example, the mobile reference stations need to repeatedly make measurements on a regular interval. However, Niu fails to explicitly disclose the number-of-times the stations need to measure. Green teaches making a coarse measurement and then making an accurate measurement based on the characteristics of the mobile station **(see e.g. col. 5 lines 9-48 and col. 6 lines 61-67)**.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Niu, to specify the number of times the stations need to measure, as taught by Green, thus allowing a more accurate position information by taking into account of multipath effects **(col. 5 lines 9-19)**.

Regarding claim 38, Niu discloses a program for causing an information processing unit to perform a process of deciding a measurement number of times of a communication situation in a positioning system for measuring a communication situation between a wireless station that is an object of positioning and each of a plurality of wireless stations other than said wireless station that is an object of positioning, thereby to specify a position of said wireless station that is an object of positioning, characterized in causing said information processing unit to function as a means for receiving identification information of said wireless station that is an object of positioning **(see e.g. [0046] [0047] means for receiving, retrieving and processing information)**, or identification information of said plurality of said wireless stations, for retrieving necessary measurement conclusion information corresponding to the received identification information from a database having identification information of said wireless station that is an object of positioning (**[0029][0030][0031])**, or identification information of said plurality of said wireless stations and necessary measurement conclusion information for drawing a conclusion on the measurement number of times stored correspondingly to each other, said necessary measurement conclusion information derived from a characteristic of said wireless station that is an object of positioning, or a characteristic of said plurality of said wireless stations, or a characteristic of a combination of said wireless station that is an object of positioning and said plurality of said wireless stations, and for deciding the measurement number of times based upon this necessary measurement conclusion information **(see e.g.[0009][0011][0012] a neighbor list of reference units some of which are mobile**

and some of which are stationary; [0029][0030][0031] location is determined by number of occurrences of the reference units in the corresponding neighbor list; [0041][0043] if reference units are mobile their positions need to be measured periodically, therefore number of the measurements depends on the characteristic of the reference stations).

Niu discloses taking different number of measurements associated with the different characteristics of the reference stations, for example, the mobile reference stations need to repeatedly make measurements on a regular interval, however, Niu fails to explicitly disclose the number-of-times the stations need to measure. Green teaches making a coarse measurement and then making an accurate measurement based on the characteristics of the mobile station **(see e.g. col. 5 lines 9-48 and col. 6 lines 61-67)**.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Niu, to specify the number of times the stations need to measure, as taught by Green, thus allowing a more accurate position information by taking into account of multipath effects **(col. 5 lines 9-19)**.

Regarding claim 42, Niu discloses the program according to claim 39, characterized in that said necessary measurement conclusion information is a measurement number of times.

Niu discloses taking different number of measurements associated with the different characteristics of the reference stations, for example, the mobile reference

stations need to repeatedly make measurements on a regular interval, however, Niu fails to explicitly disclose the number-of-times the stations need to measure. Green teaches making a coarse measurement and then making an accurate measurement based on the characteristics of the mobile station **(see e.g. col. 5 lines 9-48 and col. 6 lines 61-67)**.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Niu, to specify the number of times the stations need to measure, as taught by Green, thus allowing a more accurate position information by taking into account of multipath effects **(col. 5 lines 9-19)**.

Regarding claim 44, Niu discloses the program according to claim 39, characterized in causing the information processing unit to function as a means for updating the necessary measurement number-of-times conclusion information of the database based upon an acquired measurement result **([0041] periodically updating location measurements)**.

Regarding claim 45-46, combination of Niu and Green discloses updating the databases and a weighing mechanism.

Regarding claim 47, Niu discloses the program according to claim 39, characterized in that said measurement of said communication situation is a measurement of a radio wave propagation time **([0005])**.

Regarding claim 48, Niu discloses the program according to claim 39, characterized in that the information processing unit has a connection with each of said plurality of said wireless stations via a network **([0002])**.

Regarding claim 49, the combination of Niu and Green discloses the program according to claim 39, characterized in that said necessary measurement number-of-times conclusion information is information prepared by taking into consideration a characteristic of the wireless station that is an object of positioning, or a characteristic of the wireless station other than the wireless station that is an object of positioning, or a characteristic of a combination of said wireless station that is an object of positioning and the wireless station other than said wireless station that is an object of positioning, and a positioning quality that is requested.

Regarding claim 50, Niu discloses the program according to claim 49, characterized in that said quality of said positioning is positioning precision information **([0003][0006])**.

Regarding claim 51, Niu discloses the program according to claim 49, characterized in that said quality of said positioning is use application information **([0006])**.

3. Claim 24, 39, 40, 41, 43, 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niu in view of Green, further in view of Karr et al. (US 6952181).

Regarding claim 24, Niu discloses a positioning server for deciding a measurement number of times of a communication situation in a positioning system for measuring a communication situation between a wireless station that is an object of

positioning and each of a plurality of wireless stations other than said wireless station that is an object of positioning, thereby to specify a position of said wireless station that is an object of positioning, characterized in including: a database **(see e.g.[0009][0011][0012])**; and a means for receiving identification information of said wireless station that is an object of positioning, or identification information of said plurality of said wireless stations, for retrieving group information corresponding to this identification information from said first table, for retrieving necessary measurement conclusion information corresponding to this group information from said second table, and for deciding the measurement number of times based upon this necessary measurement number-of-times conclusion information**(see e.g. [0029][0030][0031] [0046] [0047] means for receiving, retrieving and processing information)**.
Niu discloses taking different number of measurements associated with the different characteristics of the reference stations, for example, the mobile reference stations need to repeatedly make measurements on a regular interval, however, Niu fails to explicitly disclose the number-of-times the stations need to measure. Green teaches making a coarse measurement and then making an accurate measurement based on the characteristics of the mobile station **(see e.g. col. 5 lines 9-48 and col. 6 lines 61-67)**.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Niu, to specify the number of times the stations need to measure, as taught by Green, thus allowing a more

accurate position information by taking into account of multipath effects **(col. 5 lines 9-19)**.

In addition, the combination of Niu and Green does not explicitly disclose a database having a first table, said first table having identification information of said wireless station and group information, being information associated with a group of which a characteristic resembles that of the wireless station, caused to correspond to each other, and a second table filed, said second table having said group information and necessary measurement number-of-times conclusion information caused to correspond to each other, filed. Karr discloses a database having tables with wireless station information and corresponding measurement related information **(col. 61 lines 21-41data from the Table SP-5 are used to determine number of CDMA fingers and pilots detectable which are used to filter the incoming RF signal measurements; In Table SP-5, first column is equivalent of first table and col. 5 and 6 are equivalent of second table).**

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Niu, to incorporate a table to the database with measurement information corresponding to wireless station, as taught by Karr, thus providing a more efficient phone service such as emergency calls or phone tracking **(Abstract).**

Regarding claim 39, Niu discloses a program for causing an information processing unit to perform a process of deciding a measurement number of times of a communication situation in a positioning system for measuring a communication

situation between a wireless station that is an object of positioning and each of a plurality of wireless stations other than said wireless station that is an object of positioning, thereby to specify a position of said wireless station that is an object of positioning, characterized in causing said information processing unit to function as a means for receiving identification information of said wireless station that is an object of positioning, or identification information of said plurality of said wireless stations **(see e.g.[0009][0011][0012] a neighbor list of reference units some of which are mobile and some of which are stationary; [0029][0030][0031] location is determined by number of occurrences of the reference units in the corresponding neighbor list; [0041][0043] if reference units are mobile their positions need to be measured periodically, therefore number of the measurements depends on the characteristic of the reference stations)**, for retrieving group information corresponding to this identification information, being information associated with a group of which a characteristic resembles that of the wireless station, caused to correspond to each other, retrieving necessary measurement conclusion information corresponding to this group information from a table having said group information and the necessary measurement conclusion information caused to correspond to each other**(see e.g. [0046] [0047] means for receiving, retrieving and processing information)**, and for deciding the measurement number of times based upon this necessary measurement conclusion information ([[0031][0041]).

Niu discloses taking different number of measurements associated with the different characteristics of the reference stations, for example, the mobile reference

stations need to repeatedly make measurements on a regular interval, however, Niu fails to explicitly disclose the number-of-times the stations need to measure. Green teaches making a coarse measurement and then making an accurate measurement based on the characteristics of the mobile station **(see e.g. col. 5 lines 9-48 and col. 6 lines 61-67)**.

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Niu, to specify the number of times the stations need to measure, as taught by Green, thus allowing a more accurate position information by taking into account of multipath effects **(col. 5 lines 9-19)**.

In addition, the combination of Niu and Green does not explicitly disclose a table containing mobile unit information and measurement related informaiton. Karr discloses a database having tables with wireless station information and corresponding measurement related information **(col. 61 lines 21-41data from the Table SP-5 are used to determine number of CDMA fingers and pilots detectable which are used to filter the incoming RF signal measurements; In Table SP-5, first column is equivalent of first table and col. 5 and 6 are equivalent of second table).**

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the invention of Niu, to incorporate a table to the database with measurement information corresponding to wireless station, as taught by Karr, thus providing a more efficient phone service such as emergency calls or phone tracking **(Abstract).**

Regarding claim 40, the combination of Niu, Green and Karr discloses the program according to claim 39, characterized in that said group information is at least one of a model number of the wireless station, a model number of an IC for wireless communication mounted onto the wireless station, manufacturer information of an IC for wireless communication mounted onto the wireless station, and wireless communication technique information to which the IC for wireless communication mounted onto the wireless station corresponds **(see e.g. Karr: col. 61, Table SP-5)**.

Regarding claim 41, the combination of Niu, Green and Karr discloses the program according to claim 39, characterized in causing said information processing unit to function as a means for acquiring MIB information, thereby to acquire said group information **(see e.g. Karr: col. 60 lines 55-59)**.

Regarding claim 43, the combination of Niu, Green and Karr discloses the program according to claim 39, characterized in that said necessary measurement number-of-times conclusion information is a standard deviation of a dispersion in an internal process delay in the wireless station that is an object of positioning or the other wireless station **(see e.g. Karr: col. 60 line 47-48 delay spread; col. 79 line 30 standard deviations)**.

Regarding claim 52, the combination of Niu, Green and Karr discloses the program according to claim 39, characterized in that said identification information of said wireless station is at least one of a person name using the wireless station, a personal ID of a person using the wireless station, an appliance name registered to a wireless station appliance, an MAC address of the wireless station, an IP address of the

wireless station, and an arbitrary ID allocated to the wireless station **(see e.g. Karr: col. 61, Table SP-5)**.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KATHY WANG-HURST whose telephone number is (571) 270-5371. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm, alternate Fridays, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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